

and a tumor presented itself, which extended further anteriorly. A further portion of bone was removed, when it was found possible to insert the forefinger between the growth and brain-tissue. By gently insinuating the finger the tumor was easily enucleated, except in the region of the dura mater above, to which it was somewhat adherent. There was very little bleeding, but owing to the size of the cavity it was stuffed with iodoform-gauze.

The tumor weighed three ounces; it was oval, measuring three by two and one-half inches, and flattened. It was firmer than brain-substance. The capsule was strong. The tumor was a sarcoma, with rather large round-cells; some were oval.

The site of operation was selected on account of the convulsive twitchings of the left upper extremity, without reference to the pain and tenderness complained of by the patient; the latter proved to be the better indication of the seat of the tumor. The motor area must have been stimulated by the backward pressure of the growth. It was impossible to say from what particular intracranial structure the tumor grew.

The author regrets the use of drainage, as it induced the discharge of the replaced bone-disks, which eventually resulted in a hernia cerebri. The amount of brain-substance thus lost caused a contracture and paralysis of the forearm and a weakness on the left side of the face and in the left foot. The slight fits which the patient still has are probably due to the contracture of the scar. They are not frequent enough to be caused by such a return of the disease as would occur in three years and four months.

Diseases of the Gall-bladder and Bile-ducts.—In a recent lecture delivered at the Royal College of Surgeons in London MAYO ROBINSON (*British Medical Journal*, March 27, 1897) says that in gallstones in cholelithiasis the indications for operation are:

1. In frequently recurring biliary colic without jaundice, with or without enlargement of the gall-bladder.

2. In enlargement of the gall-bladder without jaundice, even if unaccompanied by great pain.

3. In persistent jaundice ushered in by pain, and where recurring pains, with or without ague-like paroxysms, render it possible that the case is gallstones in the common duct.

4. In empyema of the bladder.

5. In peritonitis starting in the right hypochondrium.

6. In abscess around the gall-bladder or bile-ducts, whether in the liver or under or over it.

7. In some cases where, although gallstones may have passed, adhesions remain and prove a source of pain and illness.

8. In fistula, mucous, muco-purulent, or biliary.

9. In certain cases of chronic jaundice, with distended gall-bladder, dependent upon some obstruction of the common duct, although the suspicion of malignancy be entertained. In such cases the increased risk must be borne in mind, as malignant disease may be the cause of the obstruction, and operation in such cases is attended with greater danger than ordinary.

10. In phlegmonous cholecystitis and gangrene, if the cause be seen and recognized at a sufficiently early stage of the disease.

11. In gunshot-injury or in stab-wounds over the region of the gall-bladder.

12. In suspected rupture of the gall-bladder without external wound.

13. In some cases of chronic catarrh of the gall-bladder or bile-ducts.

14. In suppurative cholangitis.

The safest exploratory measure is an exploratory incision followed by palpation of the gall-bladder and ducts, or possibly by aspiration. Aspiration and sounding are dangerous procedures of themselves, as there is the danger of infection of the peritoneum by escaping bile through the puncture of the bladder-wall.

The indications given for cholecystotomy or cholecystostomy are:

1. In all cases where the gall-bladder is sufficiently large to permit of drainage after gallstones have been removed from the gall-bladder or ducts.

2. In cases where there are gallstones in the ducts, but the patient is too ill to bear a prolonged operation, the gallstones being deliberately left for treatment by some solvent solution.

3. In emphysema of the gall-bladder, where that viscus is not too much disorganized to be permitted to remain.

4. In certain cases of chronic catarrh of the gall-bladder or bile-ducts.

5. In suppurative cholangitis.

6. In obstruction of the ducts due to hydatid disease.

7. In dropsy of the gall-bladder.

8. In idiopathic rupture, or laceration, or gunshot-injury of the gall-bladder or ducts.

9. In cases of choledochotomy, in order to avoid tension in the sutured duct.

10. In certain cases of obstructive jaundice dependent on malignant tumor which is occluding the ducts; but in these cases the increased danger must be borne in mind.

11. In some cases of phlegmonous cholecystitis or gangrene, when the patient is too ill to bear cholecystectomy.

After the operation a non-perforated drainage-tube is inserted and the edges of the gall-bladder are sutured to the aponeurotic layer of the abdomen, not to the skin, thus avoiding the danger of fistula. It is preferable to suture the peritoneum of the viscus to the parietal peritoneum when this is possible. In ordinary cases the drainage-tube is shortened on the second and third days and removed on the fourth or fifth.

In cases of contracted bladder that is deeply situated the operation may be difficult. The author has succeeded in some cases by forming a serous tube out of the right border of the omentum surrounding the drainage-tube, or by tucking down the parietal peritoneum and suturing it to the gall-bladder. Where neither of these is possible the packing of iodoform-gauze about the tube is successful.

The Murphy "button-tube," the author thinks, is not often applicable in these difficult cases. In certain cases where the gall-bladder is much contracted the line of incision may be sutured and drainage by iodoform-gauze carried from this line to the abdominal incision, or the incision may be deliberately left patent and the bile allowed to run into the right kidney-pouch, from which it is removed by a drainage-tube in the loin.

The so-called "ideal" operation has the great disadvantage of not allowing drainage of the biliary tract for a time; it is possible to open the gall-bladder, suture it and the parietal incision, and obtain primary union, but drainage does more good.

The operation in two stages does not permit of a thorough exploration of the bile-ducts, as after the healing of the bladder in the parietal incision access to these parts is impossible.

Calculi in the common bile-duct. In some cases it may be impossible to remove stones that have become imbedded in the common duct by forceps or scoop through the gall-bladder. Under the circumstances the stone may be crushed or removed by choledochotomy, or, under certain circumstances, cholecystenterostomy may be performed.

The presence of jaundice with distended gall-bladder is presumptive evidence in favor of malignant disease, but jaundice without the distended gall-bladder favors the diagnosis of cholelithiasis.

The special symptoms which point to stone in the common duct are absence of enlargement of the gall-bladder, with frequent attacks of mild pain followed by jaundice or its intensification, which in many cases never quite disappears. The pain is in the epigastric rather than in the right hypochondriac region, and passes through to the right dorsal or lumbar region rather than to the right infrascapular. Where jaundice is intense and without much variation, especially if the gall-bladder be enlarged, there is usually malignant disease or some other cause than gallstones.

In a few cases a stone may be pressed back into the gall-bladder, but they are seldom found, possibly on account of the contraction of the gall-bladder and cystic ducts. Occasionally a small stone may be pressed into the duodenum, but this is rare, and not infrequently it is pushed into a dilated diverticulum of Vater, and so missed, and the whole operation rendered futile.

Cholecystostomy, with treatment by solvent injections later, is simple and safe, and will give immediate relief with a minimum risk and render the patient better fit for subsequent treatment if it is required.

In cholelithotripsy the incision may need to be enlarged so that the stone may be palpated *in situ*. If the right hand be used, the thumb will enter the foramen of Winslow, the index-finger passing in front of the common duct; the position is reversed if the left hand is used. Usually the gallstone flattens out in wafer-shape; the concretion is converted into pulp or breaks up into innumerable fragments, which can be passed on toward the duodenum or subsequently washed through.

The disadvantages of this method are the dangers to the walls of the duct and the return of the stone-formation caused by fragments left behind. Meddling is dangerous from the injury to the walls and subsequent infection.

Choledochotomy is the opening of the bile-ducts for the extraction of gallstones in cases where they cannot be removed otherwise.

Choledochoduodenostomy is a term applied to a modification of choledochotomy where a gallstone is impacted and removed from the diverticulum of Vater through an incision in the duodenum.

Cholecystectomy or excision of the gall-bladder is indicated: 1. In bullet-wounds or other wound of gall-bladder where suture is impossible. 2. In phlegmonous cholecystitis. 3. In gangrene of the gall-bladder. 4. In mul-

tiple or perforating ulcers. 5. In chronic cholecystitis from gallstones where the gall-bladder is shrunk and too small to drain safely, and where the common duct is free from obstruction. 6. In mucous fistula due to constriction of the cystic duct. 7. In hydrops of the gall-bladder due to stricture of the cystic duct, as also in certain cases where the gall-bladder is very much dilated. 8. In certain cases of empyema where the walls of the gall-bladder are very seriously deranged, and, 9, in cancer of the gall-bladder. It is contraindicated in all cases of non-patency of the common duct, and it should not be resorted to under the idea that it will prevent the formation of gallstones, as calculi may form in the bile-ducts within the liver or below it.

Cholecystenterostomy consists in establishing an artificial opening between the gall-bladder and intestine, preferably the duodenum.

The author concludes that this operation is indicated :

1. In biliary fistulæ depending on stricture or other permanent occlusion of the common duct.

2. Very occasionally in cancer of the head of the pancreas or malignant tumor of the common duct, leading to chronic jaundice and distended gall-bladder ; but in such cases the mortality will be so high necessarily that the justifiability of the operation is questionable.

3. Occasionally in impaction of gallstones in the ducts, where the patient is not in a fit condition to bear the more prolonged operation of separating adhesions and crushing or removing the concretion by choledochotomy.

4. In certain cases of obstruction of the cystic duct where cholecystectomy is impracticable.

Contraindications. 1. In any obstruction of the bile-duct which can be cleared away with reasonable probability of success.

2. In malignant disease of the head of the pancreas or common bile-ducts leading to distention of the gall-bladder the mortality is so great (8 operations, 7 deaths) that it is hardly worth doing.

3. In contracted gall-bladder where it is impracticable to insert the button.

4. Where there are extensive adhesions which would produce kinking of the bowel.

5. In very large gall-bladders with obstruction of the cystic duct, where cholecystectomy should be done.

The Treatment of the Hypertrophied Prostate by the Galvanocautery.

—BOTTINI (*Archiv für klin. Chir.*, 1897, Band liv. Heft 1) describes a new method of treating the diuresis accompanying the hypertrophied prostate, which he has perfected and which has produced both in his own hands and in the hands of other eminent surgeons results that are all that could be desired.

He describes the instruments, which he has had constructed according to his own designs, and the technique of the operation, illustrating his subject by the report of three clinical observations.

He claims for the operation the following points :

1. The unmistakable efficiency of the operation—a patient who has not urinated for years passing his urine of himself a few hours after the operation.